

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 7 (Cancelled).

8. (Currently amended) ~~An apparatus~~ A clamp-on flowmeter for determining and/or monitoring the volume and/or mass flow rate of a medium in ~~a containment, especially in a pipe~~, comprising:

~~at least one~~ two ultrasonic transducer transducers, which emit ~~emits and/or receives~~ receive ultrasonic measuring signals;

~~[[a]] coupling element~~ elements associated with each of said ~~at least one~~ ultrasonic ~~transducer~~ transducers, via which the ultrasonic measuring signals are coupled into, and out of, the ~~containment pipe~~ at a predetermined in-coupling and out-coupling angle; and

a control/evaluation unit, which determines the volume and/or mass flow rate of the medium flowing in the pipe on the basis of the travel-time difference principle ~~the measuring signals or on the basis of measurement data, which are derived from the measuring signals~~; wherein:

said coupling element includes at least two element portions, which are embodied and/or arranged in such a manner that the influence of temperature changes on a predetermined in-coupling angle (ζ) into the containment and/or on a predetermined out-coupling angle (ζ) out of the containment is approximately compensated in a predetermined, or extended, temperature range~~[[.]]~~, and

said at least two element portions comprise coupling wedges or lead-in members, the dimensions of said at least two element portions, or the path lengths, which the ultrasonic measuring signals travel in said coupling wedges or said lead-in members, are so selected that the sum of the corresponding travel times, which the ultrasonic measuring signals require for passing through said coupling wedges or said lead-in members, is at least approximately constant over a predetermined temperature range.

9. (Currently amended) The apparatus as claimed in claim 8, wherein:

~~for the case that~~ the in-coupling/out-coupling angle (ζ) of the ultrasonic measuring signals is determined also by the temperature dependence of the medium, said at least two element portions of said coupling element are embodied and/or arranged in such a manner that the in-coupling/out-coupling angle (ζ), respectively, into the medium or out of the medium, is approximately constant over an extended temperature range.

10. (Previously presented) The apparatus as claimed in claim 8, wherein:

said at least two element portions are coupling wedges, which are passed through successively by the ultrasonic measuring signals.

11. (Currently amended) The apparatus as claimed in claim 8, wherein:

said at least two element portions, are made of different materials, wherein the materials are so selected that changes of the velocity of sound (c_2) in, or the index of refraction of, the material of a first element portion, or of a first coupling wedge, caused by temperature changes are approximately compensated for by changes of the velocity of sound (c_1) in, or the index of refraction of, at least a second element portion, or of a second coupling wedge, caused by temperature changes.

12. (Previously presented) The apparatus as claimed in claim 8, wherein:

said at least two element portions are made of plastic.

13. (Previously presented) The apparatus as claimed in claim 8, wherein:

a plurality of element portions, ~~e.g. coupling wedges~~, of different materials are provided; and

the materials are so selected that changes of the velocity of sound in, or the index of refraction of, the medium caused by temperatures changes, and changes of the velocities of sound in, or the indices of refraction of, ~~the at least two~~ said plurality of element portions, ~~e.g. coupling wedges~~, caused by temperature changes, are approximately mutually compensated.

Claim 14 (Cancelled).